



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

SEP 20 2012

Zak Covar
Executive Director
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

RE: UIC Program Revision to establish an Aquifer Exemption
Fusselman Formation, Montoya Group, and El Paso Group, El Paso County

Dear Mr. Covar:

I am pleased to inform you EPA finds TCEQ's application to exempt portions of the Fusselman Dolomite, Montoya Dolomite and El Paso (dolomite and limestone) group in El Paso County, Texas, a non-substantial revision to its underground injection control program. As such, by authority delegated to our Regional Administrator and redelegated to the Water Quality Protection Division, we approve the exemption under the criteria provided in Title 40 of the Code of Federal Regulations §146.4.

EPA review of your application confirms that the portion of the aquifer proposed for exemption does not currently serve as source of drinking water; there are no drinking water wells in the vicinity of the proposed exempted area that draw water from the proposed exempted areas. In addition, the remote location of the wells and their depths make recovery of the water for drinking water purpose economically or technically impractical. Furthermore, your application demonstrates that water samples taken from the formations proposed for exemption exhibit high concentration of certain radionuclides (gross alpha and radium 226 and 228).

EPA concludes that the portion-of the aquifer proposed for exemption meets the criteria for exemption at:

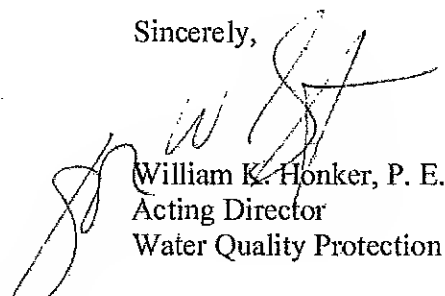
- §146.4 (a): It does not currently serve as a source of drinking water; and
- §146.4 (c): The total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.

The areal extent and horizontal boundaries of the exempted portions of these dolomite and limestone groups are as described in TCEQ's February 27, 2012 aquifer exemption application cover letter and depicted in figure 2 of TCEQ's Aquifer Exemption Order, Docket No. 2011-1814 (enclosed). This exemption applies only to disposal of desalination wastes for 50 years through the three existing disposal wells, as modeled in the application for exemption. The

existing wells are close to the Texas/New Mexico border, and modeling by the permit applicant shows that injected waste will remain on the Texas side of the boundary. This approval does not extend into New Mexico, and injection rates shall be managed to ensure that no injected waste migrates beyond the Texas portion of the aquifer. Any modification adversely affecting the protection of USDWs in New Mexico will require additional approval.

If you have any questions, please contact Mr. Philip Dellinger, Chief, Ground Water/UIC Section at (214) 665-8324.

Sincerely,

A handwritten signature in black ink, appearing to read 'W. Honker', is written over the typed name and title.

William K. Honker, P. E.
Acting Director
Water Quality Protection Division (6WQ)

cc: Ed Archuleta, President, EPWU
David Martin, Secretary, NMED

Bryan W. Shaw, Ph.D., *Chairman*
Carlos Rubinstein, *Commissioner*
Toby Baker, *Commissioner*
Zak Covar, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 24, 2012

Mr. William K. Honker, P.E.
Acting Director
Water Quality Protection Division
U.S. Environmental Protection Agency, Region 6
1445 Ross Ave, Ste 1200
Dallas, TX 75202-2733

Re: Request for Approval of Non-Substantial Underground Control Program Revision to
Establish an Aquifer Exemption in the Goliad Formation, Goliad County

Dear Mr. Honker:

I am writing in response to your letter of May 16, 2012 requesting two separate groundwater modeling demonstrations to support TCEQ's non-substantial Underground Injection Control (UIC) program revision to identify an exempted aquifer in Goliad County, Texas. I appreciate your effort to explain the rationale for requesting the modeling and for providing some of the specific details that you want to see modeled. However, as we have stated previously, EPA regulations, EPA guidance, and EPA precedent do not require groundwater modeling to consider a non-substantial UIC program revision to identify an exempted aquifer. I ask that you take final action on TCEQ's non-substantial program revision without consideration of the modeling that you request.

TCEQ asks you to approve the non-substantial program revision under the provisions of 40 CFR §§ 144.7, 145.32, and 146.4. EPA's request for modeling and information about water wells outside of the designated aquifer exemption area confuses the aquifer exemption requirements with the UIC permit and rule requirements applicable to *in situ* uranium mining. In describing the aquifer exemption requirements, EPA has previously stated that the fact that persons may use drinking water drawn from the aquifer outside of the proposed exemption boundary is irrelevant to Section 146.4(a), which looks only to the use of the exempted portion of the aquifer.¹ TCEQ agrees. Although the groundwater outside of the designated exempted aquifer is not relevant to the aquifer exemption criteria, such groundwater is protected by compliance with TCEQ injection well permits, production area authorizations, and enforcement of TCEQ's rules. EPA has also stated that it is the permit process, not the exemption, which is intended to control the mining through operational conditions and the requirements for monitoring, reporting, corrective action, and restoration.² TCEQ agrees. EPA has similarly stated that even after an aquifer is exempted, strict controls upon construction and operation of the wells are imposed by

¹ The TCEQ agrees with the statements on p. 44 by EPA's Brief of Respondent submitted to the United States Court of Appeals for the Eighth Circuit in successful defense of a challenge of EPA's approval of a non-substantial program revision designating an exempted aquifer related to *in situ* uranium mining in Nebraska. See *Western Nebraska Resources v. EPA*, 943 F.2d 867. Citations to follow are from EPA's Brief of Respondent.

² Brief of Respondent, p. 42.

regulation and permits, and no movement of fluids into or between underground sources of drinking water (USDWs) may take place.³ TCEQ agrees. EPA has stressed that the safety of uranium mining is due to the permittee's duty to satisfy the extensive operational, monitoring, restoration and corrective action requirements of the state UIC permit and the required radioactive materials license.⁴ TCEQ agrees.

TCEQ, and its predecessor agencies, have had over 30 years of successful regulation of *in situ* uranium mining operations in Texas. TCEQ's permits and rules protect USDWs. To ensure protection of groundwater in areas outside of the mining area, the permittee: 1) must identify any existing wells that could serve as a conduit for mining solutions to move outside the production zone or the production area (30 TAC §331.42); 2) must construct Class III wells in accordance with proper construction requirements (30 TAC §331.82); 3) must maintain the mechanical integrity of all Class III wells (30 TAC §331.4); 4) must implement corrective action standards as necessary to prevent or correct pollution of a USDW (30 TAC §331.44); 5) is subject to Executive Director approval of construction and completion of wells (30 TAC §331.45); 6) must operate wells in accordance with proper operation requirements (30 TAC §331.83); 7) must monitor wells in accordance with monitoring requirements (30 TAC §331.84); 8) must submit reports in accordance with reporting requirements (30 TAC §331.85); and 9) must close wells in accordance with a plugging and abandonment plan in a manner that will not allow the movement of fluids through the well out of the injection zone or to the land surface (30 TAC §§ 331.46 and 331.86). TCEQ rules also require that mining occur within designated production areas.

The Production Area Authorization issued under the terms of the Class III injection well permit further requires: 1) the confinement of mining solutions to the production zone within the area of designated production zone monitor wells (30 TAC §331.102); 2) the establishment, location and spacing for production zone monitor wells (monitor well ring) and non-production zone monitor wells (monitor wells for underlying or overlying zones) (30 TAC §331.103); 3) the establishment of baseline groundwater quality for restoration goals and control parameters for excursion detection (30 TAC §331.104); 4) the establishment of monitoring standards for detecting mining solutions in monitor wells (30 TAC §331.105); 5) remedial action for any detected excursions (30 TAC §331.106); and 6) groundwater restoration after the completion of mining (30 TAC §331.107). The TCEQ's rules and requirements for *in situ* uranium mining are more specific and more protective of groundwater and USDWs than EPA's regulations in 40 CFR Parts 144 and 146.

I am troubled by the statement in your letter that based on EPA's experience with other *in situ* mining projects, EPA believes there is a high likelihood that, following mining activities, residual waste from mining activities will not remain in the exempted aquifer. EPA has not shared this experience with TCEQ on any of the *in situ* uranium mining projects in Texas. There have been 43 Class III injection well permits issued for uranium mining in Texas. After completion of mining, restoration and reclamation activities, concurrence from the United States Nuclear Regulatory Commission is required to approve the final decommissioning, including groundwater restoration, of an *in situ* uranium mine. There has not been one instance of documented off-site pollution of a USDW from *in situ* uranium mining activities. TCEQ's permits are subjected to extensive public notice and participation requirements, and TCEQ

³ Brief of Respondent, p. 8.

⁴ Brief of Respondent, p. 12.

William K. Honker, P.E.

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May 24, 2012

apprises EPA of pending permit actions. EPA has never commented to TCEQ that a pending permitting action for an *in situ* uranium mining project would lead to the contamination of a USDW outside of an exempted aquifer. EPA has never informed TCEQ that the authorized UIC program is out of compliance with the Safe Drinking Water Act because Class III injection well operators are failing to protect USDWs or groundwater outside of exempted aquifers. Nor, has EPA notified TCEQ that EPA was intending to take an enforcement action against a Class III injection well operator for failing to protect USDWs as required by TCEQ permit or rule. It appears that EPA may be swayed by the unsubstantiated allegations and fears of uranium mining opponents who have contacted you regarding TCEQ's program revision. The TCEQ has not been invited to those discussions nor provided any opportunity to refute any allegations about TCEQ's UIC program.

Again, I ask for your prompt approval of this non-substantial program revision. The Safe Drinking Water Act requires EPA's approval or disapproval of a state's entire UIC program within ninety days of the state's application. Yet, EPA has taken over a year to consider the non-substantial revision of TCEQ's already-approved program relating to the aquifer exemption in Goliad County. The delay and shift in position on the consideration of the program revision create uncertainty for the TCEQ program as well as the regulated community. If you decide to disapprove this non-substantial program revision, I would respectfully request that you provide a statement of the reasons for your determination, the citation to the statute or regulation that compels such a determination, and the source of any factual information used to support such a determination.

The TCEQ remains committed to the approved UIC program and believes our permits and authorizations protect USDWs in the area as required in the Safe Drinking Water Act. We will continue to consider all of our options and remain hopeful that under EPA's new leadership at Region 6, we can reach a satisfactory resolution for everyone involved.

Sincerely,

A handwritten signature in black ink, appearing to read 'Zak Covar', with a long horizontal flourish extending to the right.

Zak Covar
Executive Director



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

MAY 16 2012

Mr. Zak Covar
Executive Director,
Texas Commission on Environmental Quality (TCEQ)
Post Office Box 13087
Austin, Texas 78711-3087

RE: Application for Exemption of Portions of the Goliad Aquifer Formation in Goliad County

Dear Mr. Covar:

EPA has been continuing our review of the Texas Commission on Environmental Quality's (TCEQ) August, 2011 letter regarding the aquifer exemption request for Uranium Energy Corp's (UEC) proposed *in situ* leach uranium mining activities in the Goliad Aquifer in Goliad County, Texas. We have had a number of discussions with representatives of UEC and have undertaken further legal and technical analysis. We would like to update you on our thinking about this exemption request and outline a path forward.

As you know, the protection of drinking water is one of the EPA's highest priorities. Working together, the EPA and TCEQ share a long history of cooperation and success with regard to monitoring and protecting drinking water as a critical resource. As always, our respective staffs have discussed the aquifer exemption request in a thorough and professional manner.

In summary, we continue to believe that the criteria for granting an aquifer exemption have not yet been met. For the EPA to approve an aquifer exemption, the Agency must first find that the applicant has demonstrated that the aquifer or the portion of an aquifer identified by the State as exempt "does not currently serve as a source of drinking water" (40 CFR 146.4 (a)). The EPA's examination of TCEQ's aquifer exemption request revealed numerous domestic water supply wells in the area of the requested exemption. Some of these wells are in close proximity to the proposed mining area, and are currently used for drinking water by local residents. This information has been confirmed by an EPA Region 6 site visit and public meetings with the citizens of Goliad County, as well as by the Goliad County government and the Goliad County Groundwater Conservation District in correspondence to EPA dated March 26, 2012. Under these circumstances, we need additional information to conclude that water from the exempt area of the aquifer is not a source for nearby drinking water wells. We believe such information could be obtained from two-phase modeling, although TCEQ or UEC could seek to make the necessary demonstration by alternate methods. We have discussed this modeling with UEC and are describing its scope and objectives more fully below.

As you know, consistent with EPA's longstanding interpretation and application of its regulations, EPA includes a buffer zone around the area requested for exemption to determine whether the exempted aquifer or portion currently serves as a source of drinking water. Attachment 3 of Guidance 34 (July 5, 1984), "Guidelines for Reviewing Aquifer Exemption Requests" provides in pertinent part:

[A]ll exemption requests must demonstrate that the aquifer "... does not currently serve as a source of drinking water." (40 CFR §146.4(a)). To demonstrate this, the applicant should survey the proposed exempted area to identify any water supply wells which tap the proposed exempted aquifer. The area to be surveyed should cover the exempted zone and a buffer zone outside the exempted area. The buffer zone should extend a minimum of a 1/4 mile from the boundary of the exempted area. Any water supply wells located should be identified on the map showing the proposed exempted area.

If no water supply wells would be affected by the exemption, the request should state that a survey was conducted and no water supply wells are located which tap the aquifer to be exempted within the proposed area. If the exemption pertains to only a portion of an aquifer, a demonstration must be made that the waste will remain in the exempted portion. Such a demonstration should consider among other factors, the pressure in the injection zone, the waste volume, injected waste characteristics (i.e., specific gravity, persistence, etc.) in the life of the facility.

The letter TCEQ sent to EPA in August 2011 reflects a different view of the information EPA needs in order to approve an aquifer exemption and suggests that completing a well survey is sufficient for approval. However, our guidance indicates only that a well survey may support granting of an exemption if it shows that "no water supply wells would be affected by the exemption." Where – as here – the survey and other information identifies wells within the buffer area that are likely to draw water from the aquifer, the survey should be supplemented with additional information.

TCEQ also appears to interpret our regulations to mean that EPA may only look at whether the drinking water wells in the vicinity are – "at present" – withdrawing the water in the portion of the aquifer proposed for exemption. That interpretation ignores the regulatory text "serve as a source." Determining whether water in a portion of an aquifer is *currently being withdrawn* for use in the present moment is not the same as determining whether a portion of the aquifer proposed for exemption "currently serve[s] as a source of drinking water." Water that currently *serves as a source* of drinking water includes water that is being withdrawn in the present moment *and* water that will be withdrawn in the future by wells that are currently in existence.¹

¹ TCEQ cites *Western Nebraska Resources Council v. EPA* ("WNRC I"), 943 F.2d 867 (8th Cir. 1991), which was a sequel to *Western Nebraska Resources Council v. EPA* ("WNRC P"), 793 F.2d 194 (8th Cir. 1986). EPA agrees with TCEQ that the Court in WNRC II rejected a challenge to EPA's approval of the aquifer exemption at issue. However, the Court held that EPA's approval was supported by the administrative record, not that there are limits on EPA's evaluation of aquifer exemption requests in general, or the specific inquiry as to whether the portion of the aquifer proposed for exemption meets the regulatory criterion in 40 C.F.R. 146.4(a) in that it "does not currently serve as a source of drinking water." To the contrary, in *WNRC II*, the Court acknowledged that EPA has discretion in evaluating aquifer exemptions based on the specific

The EPA's evaluation of TCEQ's aquifer exemption request is governed by the EPA's regulations and application of the regulations to the specific facts. Here, our review of the aquifer exemption application indicates that there are multiple drinking water wells in close proximity to this project and the proposed exempted area appears to be a source of water for those wells. In addition, the ore-containing zones that would be mined are present in all four strata of the Goliad aquifer, and groundwater from all four strata is hydrologically connected to the water drawn by the numerous drinking water wells in the area. It thus appears that groundwater currently moves through the area proposed for exemption on its way to the drinking water wells down gradient. Accordingly, based on the information before the Agency at this time, the EPA cannot conclude that the portion of the aquifer proposed for exemption does not currently serve as a source of drinking water for those wells. Furthermore, the application does not demonstrate that "the waste will remain in the exempted portion" consistent with Guidance 34 (see excerpt above) and, based on EPA's experience with other in-situ mining projects, EPA believes there is a high likelihood that, following mining activities, residual waste from mining activities will not remain in the exempted area.

Nonetheless, these initial indications could be overcome by information demonstrating that the portion of the aquifer proposed for exemption does not in fact currently serve as a source of drinking water for those wells in the vicinity of the area proposed for exemption. As we have discussed with you and UEC, such information could potentially be obtained from a two phase modeling approach.

The first phase would consist of a groundwater transport and capture model to show that all existing drinking water wells in the vicinity of the area proposed for exemption (i.e., at least those wells within or near ¼ mile of the proposed exemption boundary) are not capturing nor expected to capture water from the portion of the aquifer proposed for exemption. EPA believes that the model should examine the remaining lifetimes of the wells. For purposes of this analysis, EPA recommends using a well lifetime estimate of 75 years.

If the results of the groundwater modeling indicate that the wells in existence are not and would not be likely to capture water from the portion of the aquifer proposed for exemption during the lifespan of the wells, a second phase of modeling would help to show, among other things, that

facts presented: "[t]he regulatory approach adopted here by EPA -- a broad definition of covered underground waters coupled with a discretionary exemption mechanism -- is a common method by which agencies preserve their discretion to regulate equitably on a case-by-case basis." 943 F.2d at 870. Moreover, in *WNRC I*, the Court spoke approvingly of EPA's consideration of the whole record when it stated that "as was appropriate under the circumstances, a number of other factors were considered and a number of other findings were made by EPA" and those findings "flowed from a reasonable exercise of the agency's particular expertise in the area of environmental safety." 793 F. 2d at 201. One of those factors was that "no significant adverse impact on human health or on the environment as a whole (including surrounding sources of water) would result from the limited 6.7 acre exemption. 793 F. 2d at 201 (8th Cir. 1986) (emphasis added).

the "waste will remain in the exempted portion" of the aquifer consistent with Guidance 34. A chemical fate and transport model that builds upon many of the same transport parameters utilized in the first phase of the model referenced above could track the attenuation of contaminant concentrations of the residual plume as it migrates in the post restoration phase until the model shows that the plume would not reach either the existing wells or the non-exempt portion of the aquifer in concentrations harmful to human health.

On January 18, 2012, UEC met with EPA staff and presented an approach to determine whether wells in the Goliad area were drawing on water in the proposed exempted area. UEC's approach used a set of equations to solve for the limits (outer edges) of groundwater entering a well. However, the approach presented did not account for actual variability in geologic and hydrogeologic conditions across the site (i.e., different zones of hydraulic conductivity), could not handle multiple aquifers or regional groundwater stresses, and could not take into account multiple pumping wells. Based on the number of surrounding drinking water wells, all of these parameters would need to be factored into the model. Finally, the modeling approach presented by UEC only accounted for the eight year time period when the mining and associated artificial negative pressure was expected to occur without an explanation of why that period meets the specific characteristics of the site.

Whenever EPA reviews an aquifer exemption application, EPA seeks information sufficient² to support that specific aquifer exemption request. The aquifer exemptions for in-situ uranium mining projects that have previously been approved are not in areas where there are several drinking water wells in close proximity to and within the ¼ mile buffer area of the project. This two-phased modeling approach is warranted to protect against endangering the drinking water source here given that there are multiple human water source wells down gradient of and in proximity to the area proposed for exemption, and there is no lateral confinement between the portion of the aquifer proposed for exemption and the portion of the aquifer that would not be exempted.


This two-phased modeling approach could provide a pathway for EPA to approve the aquifer exemption consistent with EPA regulations and longstanding guidance.

I hope that the information provided in this letter makes clear the necessity and rationale for the additional information we previously requested. I believe that EPA and TCEQ share the mutual goal of assuring that our actions do not adversely affect the critical sources of drinking water. Working together we can meet that goal. Our technical staff is ready to discuss both modeling

² Region 6 has approved over 30 aquifer exemptions related to in-situ mining activities in the past -- an indication that we support such proposals when it can be demonstrated that they meet the regulatory criteria for EPA approval based on the specific facts. Region 6 has also disapproved an aquifer exemption request because the portion of the aquifer proposed for exemption currently served as a source of drinking water for an existing water supply well. Region 6 also approved another exemption only after the permit applicant agreed to plug downgradient wells and provide an alternate source of drinking water for the well owners.

phases in greater detail at your request and to continue its ongoing dialogue with UEC. Should you wish to discuss this letter, please contact myself or Mr. Philip Dellinger, Chief of the Ground Water/UIC Section at (214) 665-8324.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'WK Honker', with a long horizontal flourish extending to the right.

William K. Honker, P.E.
Acting Director
Water Quality Protection Division

Enclosure

cc: Charles Maguire, TCEQ

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 23, 2011

Certified Mail: 91 7108 2133 3935 2171 2525

Mr. Miguel Flores
Director
Water Quality Protection Division
United States Environmental Protection Agency
Region 6 (6WQ)
1445 Ross Avenue
Dallas, Texas 75202-2733

Re: Requests for Approval of Non-Substantial Underground Injection Control Program
Revisions to Establish an Aquifer Exemption in the Goliad Formation, Goliad County,
and in the Goliad Formation, Duval County

Dear Mr. Flores:

I am writing in response to the determinations by Environmental Protection Agency (EPA) Region 6 that the Texas Commission on Environmental Quality's (TCEQ) applications for the above-referenced non-substantial program revisions of the TCEQ's Underground Injection Control (UIC) Program are incomplete. As explained below, the TCEQ disputes the determinations that the applications for program revisions are incomplete and disagrees with the novel interpretation by Region 6 of the aquifer exemption requirements under 40 CFR 146.4. Therefore, the TCEQ requests that EPA continue to process and consider the TCEQ's applications for non-substantial program revisions without the requested modeling analysis.

EPA ignores the word "currently"

The demonstration required for exempting an aquifer is a two-prong test. The first prong of the test under 40 CFR 146.4 is that the proposed exempted aquifer or portion thereof ~~does not currently~~ serve as a source of drinking water. In order to evaluate the first prong of the test, EPA is now requesting modeling that extends into the future through all projected periods of production and restoration phases of the uranium mining projects. This is not an evaluation of **current** conditions but an evaluation of **future** conditions.

currently

Webster's Dictionary defines currently as "at present." (*Webster's Third New International Dictionary*, Merriam-Webster, 2002.) To determine whether a proposed exempted aquifer currently serves as a source of drinking water, the TCEQ reviews the proposed area to establish if there are any existing wells within the proposed boundary that provide water for human consumption. For both the URI and UEC aquifer exemption designations (and all other previous aquifer exemptions), the TCEQ reviewed the proposed areas and determined that ~~there are no existing water wells within the proposed exempted area that provide water for human consumption.~~

*no wells
in the
exempted
area*

If a portion of an aquifer could serve as a source of drinking water for a well outside of the established boundary, it could only serve as a source of drinking water at some unknown future point in time. However, many hydrologic conditions would have to be determined or assumptions made to link the water in a particular water well to a portion of an aquifer some distance away. The hydraulic connectivity or disconnectivity between the aquifer well and the well's screen, perforations, or open hole (assuming that such information about older wells is available); the hydrologic gradient in the area; the design of the well and well components; the influence of other wells in the area; the influence of injection or groundwater withdrawal during mining or restoration; and, any legal or regulatory requirements on groundwater usage are all factors that could influence whether a particular water well can draw groundwater from a portion of an aquifer some distance away. Consideration of such factors is not needed to determine whether the proposed exempted aquifer currently serves as a source of drinking water.

EPA ignores applicable case law

TCEQ is aware of only one appellate case that addresses aquifer exemptions under 40 CFR Section 146.4. In *Western Nebraska Resources Council v. United States Environmental Protection Agency*, 943 F.2d 867, an environmental organization challenged EPA's approval of a Nebraska UIC program revision to include a 3000-acre aquifer exemption associated with an *in situ* uranium mining project in Nebraska. In addition to challenging the entire concept of the aquifer exemption, the environmental organization argued that the boundary of the aquifer exemption was "gerrymandered" so that no present water wells would be included and that the exempted area was unnecessarily large. In considering the EPA's aquifer exemption rule in 40 CFR Section 146.4, the court rejected these arguments. The court supported the purposeful delineation of the aquifer exemption boundary to exclude existing wells from the aquifer exemption because the existing wells outside the aquifer exemption will not lose protection under the Safe Drinking Water Act. In the Nebraska case, the court upheld the 3000 acre size of the aquifer exemption finding that it corresponds to the ore zone boundaries and that the EPA appropriately concluded that the uranium could be commercially produced.

The TCEQ's interpretation of 30 Texas Administrative Code Section 331.13 (30 TAC 331.13) and 40 CFR 146.4 is consistent with the holding in *Western Nebraska*. To determine whether a proposed exempted aquifer is currently serving as a source of drinking water, the TCEQ determines whether there are any wells within the boundary. Groundwater outside the aquifer exemption boundary remains protected as an underground source of drinking water.

wells
outside of
boundary
are still
USDW's

EPA ignores Guidance 34

The TCEQ relied on the EPA memorandum "Guidance for Review and Approval of State Underground Injection Control Programs and Revisions to Approved State Programs. GWDB Guidance #34" (Guidance 34) in preparing its program revisions to reflect the designation of these aquifer exemptions. TCEQ has received no indication that Guidance 34 is no longer valid. Attachment 3 of Guidance 34 includes specific guidelines for reviewing program revisions associated with aquifer exemptions. The TCEQ provided information to satisfy all of the evaluation criteria specified in Attachment 3 of Guidance 34. Guidance 34 specifies that exemption requests should demonstrate that the aquifer does not currently serve as a source of drinking water to satisfy 40 CFR 146.4(a). To demonstrate this, Guidance 34 states "the applicant should survey the proposed exempted area to identify any water supply wells which tap the proposed exempted aquifer." For both the UEC and URI aquifer exemptions, there are no drinking water wells that tap the proposed exempted aquifer. Wells outside of the proposed exempted aquifer boundary do not tap the proposed exempted aquifer.

~~Guidance 34 further suggests that the area to be surveyed should cover the exempted zone and a buffer zone outside the exempted area extending a minimum of 1/4 mile from the boundary of the exempted area.~~ Guidance 34 also requires that any water wells located should be identified on the map showing the proposed exempted area. Guidance 34 makes no reference of any modeling analysis required to demonstrate that a proposed exempted area does not currently serve as a source of drinking water.

Guidance 34
suggests 1/4
mile buffer

Guidance 34 also specifies the type of information required to demonstrate under the second prong of the test that the proposed exempted aquifer cannot now and will not in the future serve as a source of drinking water because it is mineral producing or can be demonstrated to contain minerals that are expected to be commercially producible. To demonstrate that new *in situ* mining is expected to contain commercially producible quantities of mineral, Guidance 34 suggests the following information be provided: summary of logging which indicates that commercially producible quantities are present, a description of the mining method to be used, general information on the mineralogy and geochemistry of the mining zone, and a development timetable. The applicant may also identify nearby projects which produce from the formation proposed for exemption. Guidance 34 does not specify any type of modeling to show that the formation contains commercially producible minerals. To demonstrate that producible quantities are present when expanding an existing aquifer exemption, Guidance 34 indicates that upon stating the reasons for believing that producible quantities exist in the expanded area, a history of mineral production will be sufficient proof that this standard is met. Without mentioning Guidance 34, EPA Region 6 hints that a request for additional modeling to satisfy the second prong will be forthcoming.

The forms included in Guidance 34 certainly make it appear that EPA's consideration of a program revision to recognize an authorized state program's designation of an exempt aquifer is a ministerial function that follows the technical evaluation by the state. To assist EPA's review of the TCEQ's requested program revisions, I am enclosing information to support TCEQ's applications organized according to the Guidance 34 criteria. I hope this information will allow EPA's prompt consideration and approval of the TCEQ's program revisions.

EPA ignores its Memorandum of Agreement (MOA) obligations

The current Memorandum of Agreement between TCEQ and EPA requires EPA to promptly inform the TCEQ of any proposed or pending modifications to federal statutes, regulations, guidelines, standards, judicial decisions, policy decisions, directives, resource allocations or any other factors that might affect the state program or the TCEQ's ability to administer the program. EPA must promptly inform the TCEQ of the issuance, content, and meaning of federal statutes, regulations, guidelines, standards, judicial decisions, directives, and any other factors that might affect the state program. The TCEQ has received no notice or other indication that the aquifer exemption regulation in 40 CFR 146.4 has changed or that Guidance 34 has been revised or superseded by new guidance, guidelines, or interpretation of Section 146.4. The EPA Region 6 request for modeling on the TCEQ's non-substantial program revisions is a departure from EPA regulations and established EPA guidance and was not promptly communicated as required by the MOA.

The purpose of the MOA notice requirements is to allow the TCEQ to maintain an effective UIC program and keep apprised of any upcoming changes at EPA. The TCEQ's aquifer exemption requirements in 30 TAC 331.13 are based on the EPA's requirements in 40 CFR 146.4 and were approved by the EPA as reflected in 40 CFR 147.2200. TCEQ has established permit application requirements based on these rules, and permit applicants rely on the TCEQ rules in developing business projects and permit applications before the TCEQ. URI's and UEC's requests to designate

exempt aquifers were based on these existing rule requirements and the applicable guidance. The TCEQ, the regulated community and the public expect to be able to rely upon EPA's formally promulgated regulations and guidance and expect that any changes to existing regulations be conducted through formal rulemaking.

EPA ignores prior approval of program revisions on aquifer exemptions

EPA has approved approximately 36 aquifer exemptions in the State of Texas as part of the original UIC program or subsequent program revisions. For the URI Rosita project, EPA approved a program revision for the initial aquifer exemption in 1988 and approved a program revision expanding the size of the exempted aquifer in 1998. EPA did not request a modeling analysis to demonstrate that a proposed exempted aquifer does not currently serve as a source of drinking water in approving the TCEQ's initial UIC program or any of the subsequent program revisions. Further, the TCEQ can find no other examples where EPA has requested from other states groundwater modeling in order to approve a non-substantial program revision associated with an aquifer exemption. The TCEQ can provide many examples where EPA has approved a program revision associated with aquifer exemptions for other states without requiring groundwater modeling. Because EPA has approved numerous other program revisions without modeling, TCEQ's applications are not incomplete, and the pending applications for program revision can be approved without the requested modeling.

EPA ignores the applicable UIC program in Texas

The TCEQ, and not the EPA, implements the authorized UIC program in Texas. Under Section 1422 of the Safe Drinking Water Act and 40 CFR 147.2200, the state laws in rule and statute establish the UIC program under the Safe Drinking Water Act for the State of Texas, and the TCEQ has primary enforcement responsibility. EPA's request for modeling on the non-substantial program revisions associated with the aquifer exemptions disregards the determinations made by TCEQ that the designated aquifer exemptions comply with the requirements of 30 TAC 331.13.

The requests from UEC and URI to designated aquifer exemptions were carefully reviewed under 30 TAC 331.13 by professionally-licensed TCEQ staff. The applications were subjected to public notice, opportunity for public comment, and opportunity for an evidentiary contested case hearing. Public meetings on both applications were held in the local area, and TCEQ responded to all of the comments submitted on the applications. On the UEC designation, a contested case hearing before the State Office of Administrative Hearings was conducted on the application for the Class III injection well area permit, the application for a production area authorization, and the designation of the exempt aquifer. After considering all evidence in the record, the Administrative Law Judge concluded that UEC demonstrated by a preponderance of the evidence that the proposed exempted aquifer meets the applicable criteria of 30 TAC 331.13 and is supported by the holding in *Western Nebraska Resources Council v. United States Environmental Protection Agency*. The TCEQ commissioners affirmed the judge's findings and conclusions with respect to the designation of the exempted aquifer. On the URI designation, TCEQ provided an opportunity for affected persons to request a contested case hearing and received no such requests. TCEQ's Office of Public Assistance held a public meeting on URI's application to provide an opportunity for the public to ask questions of the applicant and of TCEQ staff and to take public comments. The TCEQ's own consideration of these aquifer designations was not taken lightly.

TCEQ implements a successful program for the regulation of injection activities associated with *in situ* mining of uranium. It is compliance with TCEQ permit and rule requirements, and not the size or shape of the aquifer exemption, that protects underground sources of drinking water. TCEQ requires mining to occur within a production area (within the exempted aquifer), requires monitoring wells to

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surround the production area, requires the containment of mining solutions, ~~and requires the restoration of groundwater after mining.~~

EPA's request for new modeling to make the same determination already made by the TCEQ amounts to second-guessing and disregards the TCEQ's status as the primary enforcement authority under the Safe Drinking Water Act.

EPA's request is ambiguous, presents a moving target, and provides no path for resolution

Even if the TCEQ were to attempt to provide the requested modeling, TCEQ fears that it will lead to a never-ending process as EPA further refines or modifies what is sought. The request seeking "modeling analysis demonstrating the aquifer within the proposed boundary either currently serves or does not serve as a source of drinking water" is vague. EPA does not specify software, codes, assumptions or conditions to be used by TCEQ in the modeling. EPA's letter affirms TCEQ's fears of an ongoing ordeal to comply with the request. First, before any modeling is conducted, EPA would like the opportunity to review a modeling work plan and a conceptual model. This review will, no doubt, lead to further refinement of the modeling sought. Second, EPA indicates that it is only providing a preliminary review of the program revision applications. EPA states that additional comments may be forthcoming, once the application is deemed complete--in other words, other surprises may be coming. And finally, EPA states that the modeling requested only seeks to address the first prong of the aquifer exemption requirements--whether the aquifer currently serves as source of drinking water. EPA promises to request additional, but unspecified, modeling analysis on the second criterion.

The TCEQ has always enjoyed a good relationship with EPA Region 6 regarding the TCEQ's UIC Program. I hope the information I have provided conveys the TCEQ's position regarding its UIC program revision applications. The TCEQ firmly believes that EPA regulations, EPA guidance, and EPA precedent support the consideration and approval of the TCEQ's non-substantial program revisions associated with these aquifer exemptions without providing the requested groundwater modeling. Your letters invite TCEQ to meet with EPA to discuss the requested groundwater modeling. For the reasons stated above, TCEQ does not believe there is any legal basis for EPA to request groundwater modeling in this matter; therefore, TCEQ declines a meeting with EPA to discuss modeling. However, the TCEQ is available to meet to discuss its position on the requirements for program revision associated with an aquifer exemption. If you have any questions regarding the TCEQ's applications for UIC program revision, or if you want to meet to discuss our position, please contact me at 512-239-5105 or contact Ms. Susan Jablonski, P.E., Director of the Radioactive Materials Division, at 512-239-6731.

Sincerely,



Mark R. Vickery, P.G., Executive Director
Texas Commission on Environmental Quality

Enclosure